

B1 This application claims priority to U.S. Provisional application Serial No. 60/112,324, filed December 14, 1998, expressly incorporated by reference herein.

Replace the paragraph beginning at page 3, line 36 with the following:

B2 Figure 3 shows the response of B3Z T cell hybridomas to APC prepulsed with SIINFEKL (SEQ ID NO: 10) or OVA or OVA-pEA/pK at their respective optimal concentrations. Cpm corresponds to cell growth as described above for Figs. 2A-C.

Replace the paragraph beginning at page 4, line 3 with the following:

B3 Figures 5A-B show the survival of E.G7-OVA injected mice treated with Ag-pulsed APC. Twenty 8-week old randomized female C57BL/6 mice were injected i.p. with 25×10^6 and 2×10^6 E.G7-OVA cells in 0.1 ml PBS (Fig. 5A and Fig. 5B, respectively). Two days and again 2 weeks later (arrows), mice received i.p. injections of DC, OVA-pulsed DC, OVA-pEA/pK-pulsed DC (5×10^5 cells per 0.1 ml injection), or PBS. Mice were monitored daily and their survival was recorded as indicated.

Replace the paragraph beginning at page 7, line 29 with the following:

B4 In another preferred embodiment, the peptidic sequence comprises repeating subunits having about 6 amino acids per subunit wherein a given sequence has 3 or more of such subunits and may or may not have an added N-terminal cysteine. Exemplary peptides are presented as CYS-[X-Y-Y-Y-Y-Y]_n (SEQ ID NO: 8); wherein X= glu or asp, Y= ala, leu, ile, phe, gly, cys, met or val and n is greater than or equal to 3, with a specific example provided by the pEA peptide presented as SEQ ID NO: 2.

Replace the paragraph beginning at page 8, line 1 with the following:

B5 In another preferred embodiment, the present invention provides an antigen composition for *in vivo* administration comprising one or more soluble protein antigens covalently conjugated to peptides selected from the group consisting of the pK, pEA, HA, tandem pEA/pK, tandem HA/pK peptides, peptides comprising lysine and arginine residues and peptides comprising repeating subunits presented as SEQ ID NO: 1, SEQ ID NO: 2, SEQ

B5 ID NO: 3, SEQ ID NO: 4, SEQ ID NO: 5, SEQ ID NO: 6, SEQ ID NO: 7, SEQ ID NO: 8
and SEQ ID NO: 9.

Replace the paragraph spanning pages 10 and 11 with the following:

B6 The modified soluble protein antigens of the invention whether produced by chemical coupling or by expression of continuous coding sequences as recombinant fusion proteins may be used to pulse APC, and be presented as such APC in the context of MHC I.

Replace the paragraph beginning at page 14, line 6 with the following:

B7 In a related aspect, the cancer-specific or tumor antigen is modified by a covalent conjunction to a peptide selected from the group consisting of the pK, pEA, HA, tandem pEA.PK, tandem HA/pK peptides, peptides comprising repeating units presented as SEQ ID NO: 1, SEQ ID NO: 2, SEQ ID NO: 3, SEQ ID NO: 4, SEQ ID NO: 5, SEQ ID NO: 6, SEQ ID NO: 7, SEQ ID NO: 8 and SEQ ID NO: 9.

Replace the paragraph spanning pages 14 and 15 with the following:

B8 The IL-2 secreting mouse T cell hybridoma B3Z, which responds to the mouse MHC class I (H2-K^b) bound OVA-derived peptide SIINFEKL (SEQ ID NO: 10) (OVA₂₅₇₋₂₆₄; Jameson *et al.*, *J. Exp. Med.* 177: 1541, 1993), was used to evaluate the presentation efficacy of various peptide conjugates by the thymoma cell line EL-4.

Replace the paragraph beginning at page 17, line 5 with the following:

B9 The above evidence appears to reflect improved penetration of pEA/pK-conjugated OCA into the class I-dependent Ag processing and presentation pathway. An additional experiment was conducted in order to eliminate the possibility that Ag-derived peptides in the conjugate (which do not require internalization or processing), were responsible for the observed improvement in B3Z responses. Cells were cultured as described above and EL-4 cells were fixed with 0.025% glutaraldehyde (Fluka, Buchs, Switzerland) prior to Ag pulsing. When APC were fixed with glutaraldehyde prior to Ag pulsing thereby preventing Ag internalization and processing, fixed EL-4 cells were observed to present the immunogenic peptide SIINFEKL (SEQ ID NO: 10) to B3Z in a

B9 stimulatory fashion, while their capability to present OVA-pEA/pK was completely lost upon fixation (see Fig. 3). SIINFELK (SEQ ID NO: 10) is an OVA-derived peptide (OVA₂₅₇₋₂₆₄), recognized by the T cell hybridoma B3Z. (Jameson *et al.*, 1993, J. Exp. Med. 177: 1541) A residual (approximately 7%) B3Z response to fixed EL-4 pulsed with unmodified OVA was observed indicating that the latter, though 99% pure (Sigma, St. Louis, MO) may contain a minor fraction of degradation product(s), which are removed upon conjugation to pEA/pK.

In the Claims :

Please cancel claims 2, 3 and 8-16. Replace claims 1, 4, 5-7 with the following rewritten claims:

B10 1. (amended) An antigen composition capable of eliciting an enhanced cytotoxic T cell response in the context of a major histocompatibility complex class I molecule (MHC class I), comprising an antigen having an added peptidic sequence comprising one or more sequences selected from the group consisting of SEQ ID NO: 1, SEQ ID NO:2, SEQ ID NO:3, SEQ ID NO:4, SEQ ID NO:5, SEQ ID NO:6, SEQ ID NO:7, SEQ ID NO:8, SEQ ID NO:9 and SEQ ID NO:10, wherein said added peptidic sequence facilitates entry of said antigen into antigen presenting cells (APC).

4. (amended) The antigen composition of claim 1, wherein said antigen is a soluble protein antigen.

B11 5. (amended) The antigen composition of claim 4 for use in immunizing a subject against a tumor or pathogen wherein said antigen is specific to the tumor or pathogen.

6. (amended) The antigen composition of claim 1, wherein said one or more added peptidic sequences are covalently linked to said antigen.

B11

7. (amended) The antigen composition of claim 1 wherein said antigen is a fusion protein produced by translation of a continuous nucleotide coding sequence.